

No.

9900287



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

**A&P Technology Holding Company, LLC.**

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR PLANT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (34 U.S.C. 431-438, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

'DP 4748 S'



In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this twenty-third day of August, in the year two thousand and four.

Attest:

*[Signature]*

Acting Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

*[Signature]*  
Secretary of Agriculture

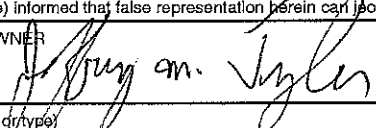
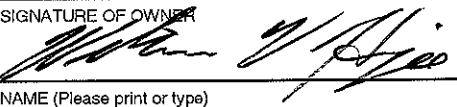
U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY DIVISION - PLANT VARIETY PROTECTION OFFICE

## APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <b>D&amp;PL Technology Holding Company, LLC.</b>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME <b>DPX 4748</b>		3. VARIETY NAME <b>DP 4748 S</b>	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country ) <b>PO Box 157 100 Main Street Scott, Mississippi 38772 USA</b>		5. TELEPHONE (include area code) <b>(662) 742-4141</b>		PVPO NUMBER <b>9900287</b>	
		6. FAX (include area code) <b>(662) 742-3182</b>		FILING DATE <b>6 May, 1999</b>	
7. IF THE OWNER IS NOT A "PERSON" GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <b>Limited Liability Company</b>		8. IF INCORPORATED, GIVE STATE OF INCORPORATION <b>Delaware</b>		9. DATE OF INCORPORATION <b>February 29, 1996</b>	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <b>Delta and Pine Land Company Kelly Casavechia P.O. Box 157 Scott, MS 38772</b>				FILING AND EXAMINATION FEE: <b>\$ 2,450</b> DATE <b>6 May, 1999</b> CERTIFICATION FEE: <b>\$ 432.00</b> DATE <b>7-16-04</b>	
11. TELEPHONE (include area code) <b>(662) 742-4141</b>		12. FAX (include area code) <b>(662) 742-3182</b>		13. E_MAIL <b>kelly.h.casavechia@deltaandpine.com</b>	
				14. CROP KIND (Common Name) <b>Soybean</b>	
15. GENUS AND SPECIES NAME OF CROP <b>Glycine Max</b>		16. FAMILY NAME (Botanical) <b>LEGUMINOSAE</b>		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse). a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of the Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,450), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)			19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input type="checkbox"/> YES (if "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (if "no", go to item 22)		
			20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO		
			21. IF "YES" TO ITEM 20, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCE FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO - as of date of original application 3/26/98 IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)			23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNEE REFERENCE NUMBER. (Please use space indicated on reverse.)		
24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.					
SIGNATURE OF OWNER 			SIGNATURE OF OWNER 		
NAME (Please print or type) <b>Jeffrey M. Tyler</b>			NAME (Please print or type) <b>William V. Hugie</b>		
CAPACITY OR TITLE <b>Soybean Breeder</b>		DATE <b>02-04-2004</b>		CAPACITY OR TITLE <b>Vice President/Director of Research</b>	
				DATE <b>02-05-04</b>	

## EXHIBIT A

~~DPPL Technology Holding~~  
~~Delta and Pine Land Company, LLC's~~  
 Application For: (BT: 2/10/2004)

DP 4748 S

ORIGIN AND BREEDING HISTORY

SUMMER 1994 Original cross 94-536 made between 5024 and DP 3478. Parentage of DP 3478 is unknown. 5024 is a group IV sulfonylurea tolerant selection from the cross of A6785\*(W20 x DP 415)

WINTER 1994-95 F<sub>1</sub> advanced to F<sub>2</sub> under lights in Costa Rica from cross 94-536. F<sub>2</sub> seed was bulked

SUMMER-FALL 1995 F<sub>2</sub> advanced to F<sub>4</sub> by the bulk pod method

WINTER 1995-96 F<sub>4</sub> seed was planted and about 200 single plant selections were threshed separately from cross 94-536

SUMMER 1996 About 200 F<sub>5</sub> plant rows were planted at Scott, MS and row 96-01957 was selected for apparent yield and general adaptation, based on visual assessment. The plants in row 96-01957 were harvested in bulk and determined to be ~~breeding true for~~ (uniform and stable (BT: 2/10/2004)) characteristics in "Exhibit C" of this application.

1997 96-01957 was yield tested at Scott, MS and was advanced based on measured seed yield.

1998 96-01957 was yield tested at 9 locations across the Southern US. 96-01957 renamed to DPX 4748 and increased to 200 units of Foundation seed in Costa Rica.

1999 DPX 4748 yield tested at 9 locations across the South and increased to about 4000 units.

2000 Released as DP 4748 (BT: 2/10/2004). After four years of testing and three generations of seed increase, DP 4748 (BT: 2/10/2004) has been observed to be uniform and genetically stable for characteristics listed in Exhibit C of this application. No variants were observed.

EXHIBIT B

PAD 11/22/00

9900287

~~DELTAPINE SEED'S~~ APPLICATION FOR DP 4748 S  
D&P Technology Holding Company, LLC's

NOVELTY STATEMENT

To our knowledge, DP 4748<sup>S</sup> most resembles CM 428 and A4922. Differences include but are not restricted to the following: (BT:10/16/2002)

1. DP 4748<sup>S</sup> is tolerant to sulfonylurea herbicides whereas CM 428 and A4922 are intolerant. (BT:10/16/2002)
2. DP 4748<sup>S</sup> has brown pod walls and A4922 has tan pod walls. (BT:10/16/2002)
3. DP 4748<sup>S</sup> has tawny pubescence whereas CM 428 has light tawny pubescence. (BT:10/16/2002)

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
LIVESTOCK, MEAT, GRAIN & SEED DIVISION  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MARYLAND 20705

EXHIBIT C  
(Soybean)

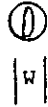
9900287

OBJECTIVE DESCRIPTION OF VARIETY  
SOYBEAN (*Glycine max* L.)

NAME OF APPLICANT(S) <del>Delta and Pine Land Company</del> <del>d/l/a Deltapine Seed</del> <b>DP1 Technology Holding Company, LLC</b> (St. Louis, MO)	TEMPORARY DESIGNATION DPX 4748 (St. Louis, MO)	VARIETY NAME DP 4748 <b>S</b>
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) 100 Main Street Scott, MS 38772		FOR OFFICIAL USE ONLY PVPO NUMBER

Choose the appropriate response which characterizes the variety in the features described below. When the number of significant digits in your answer is fewer than the number of boxes provided, place a zero in the first box when number is 9 or less (e.g.,   ).

## 1. SEED SHAPE:



1 = Spherical (L/W, L/T, and T/W ratios = < 1.2)  
3 = Elongate (L/T ratio > 1.2; T/W = < 1.2)

2 = Spherical Flattened (L/W ratio > 1.2; L/T ratio = < 1.2)  
4 = Elongate Flattened (L/T ratio > 1.2; T/W > 1.2)

## 2. SEED COAT COLOR: (Mature Seed)

1 = Yellow      2 = Green      3 = Brown      4 = Black      5 = Other (Specify) \_\_\_\_\_

## 3. SEED COAT LUSTER: (Mature Hand Shelled Seed)

1 = Dull ('Corsoy 79'; 'Braxton')      2 = Shiny ('Nebsoy'; 'Gasoy 17')

## 4. SEED SIZE: (Mature Seed)

Grams per 100 seeds

## 5. HILUM COLOR: (Mature Seed)

1 = Buff      2 = Yellow      3 = Brown      4 = Gray      5 = Imperfect Black      6 = Black      7 = Other (Specify) \_\_\_\_\_

## 6. COTYLEDON COLOR: (Mature Seed)

1 = Yellow      2 = Green

## 7. SEED PROTEIN PEROXIDASE ACTIVITY:

1 = Low      2 = High

## 8. SEED PROTEIN ELECTROPHORETIC BAND:

1 = Type A (SP1<sup>a</sup>)      2 = Type B (SP1<sup>b</sup>)

## 9. HYPOCOTYL COLOR:

1 = Green only ('Evans'; 'Davis')      2 = Green with bronze band below cotyledons ('Woodworth'; 'Tracy')  
3 = Light Purple below cotyledons ('Beeson'; 'Pickett 71')  
4 = Dark Purple extending to unifoliate leaves ('Hodgson'; 'Coker Hampton 266A')

## 10. LEAFLET SHAPE:

1 = Lanceolate      2 = Oval      3 = Ovate      4 = Other (Specify) \_\_\_\_\_

## 11. LEAFLET SIZE:

☒ 21 = Small ('Amsoy 71'; 'A5312')  
3 = Large ('Crawford'; 'Tracy')

2 = Medium ('Corsoy 79'; 'Gasoy 17')

## 12. LEAF COLOR:

☒ 21 = Light Green ('Weber'; 'York')  
3 = Dark Green ('Gnome'; 'Tracy')

2 = Medium Green ('Corsoy 79'; 'Braxton')

## 13. FLOWER COLOR:

☒ 1

1 = White

2 = Purple

3 = White with purple throat

## 14. POD COLOR:

☒ 2

1 = Tan

2 = Brown

3 = Black

## 15. PLANT PUBESCENCE COLOR: 99 MAY -5 P3:37

☒ 2

1 = Gray

2 = Brown (Tawny)

## 16. PLANT TYPES:

☒ 31 = Slender ('Essex'; 'Amsoy 71')  
3 = Bushy ('Gnome'; 'Govan')

2 = Intermediate ('Amcor'; 'Braxton')

## 17. PLANT HABIT:

☒ 3

1 = Determinate ('Gnome'; 'Braxton')

2 = Semi-Determinate ('Will')

3 = Indeterminate ('Nebsoy'; 'Improved Pelican')

## 18. MATURITY GROUP:

☐ 0 ☒ 71 = 000  
9 = VI2 = 00  
10 = VII3 = 0  
11 = VIII4 = I  
12 = IX5 = II  
13 = X

6 = III

7 = IV

8 = V

## 19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

## BACTERIAL DISEASES:

☒ 2Bacterial Pustule (*Xanthomonas phaseoli* var. *sojensis*)☐ 0Bacterial Blight (*Pseudomonas glycinea*)☒ 2Wildfire (*Pseudomonas tabaci*)

## FUNGAL DISEASES:

☐ 0Brown Spot (*Septoria glycines*)Frogeye Leaf Spot (*Cercospora sojina*)☐

Race 1

☐

Race 2

☐

Race 3

☐

Race 4

☐

Race 5

☒ 1

Other (Specify)

Races Unknown

☐ 0Target Spot (*Corynespora cassicola*)☐ 0Downy Mildew (*Peronospora trifoliorum* var. *manshurica*)☐ 0Powdery Mildew (*Microsphaera diffusa*)☐ 0Brown Stem Rot (*Cephalosporium gregatum*)☒ 2Stem Canker (*Diaporthe phaseolorum* var. *caulivora*)

19. DISEASE REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant) (Continued)

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FUNGAL DISEASES: (Continued)

- ☐ Pod and Stem Blight (*Diaporthe phaseolorum* var; *sojae*)
- ☐ Purple Seed Stain (*Cercospora kikuchii*)
- ☐ Rhizoctonia Root Rot (*Rhizoctonia solani*)
- Phytophthora Rot (*Phytophthora megasperma* var. *sojae*)
- ☒ Race 1 ☐ Race 2 ☐ Race 3 ☐ Race 4 ☐ Race 5 ☐ Race 6 ☐ Race 7
- ☐ Race 8 ☐ Race 9 ☐ Other (Specify) \_\_\_\_\_

VIRAL DISEASES:

- ☐ Bud Blight (Tobacco Ringspot Virus)
- ☐ Yellow Mosaic (Bean Yellow Mosaic Virus)
- ☐ Cowpea Mosaic (Cowpea Chlorotic Virus)
- ☐ Pod Mottle (Bean Pod Mottle Virus)
- ☐ Seed Mottle (Soybean Mosaic Virus)

NEMATODE DISEASES:

- Soybean Cyst Nematode (*Heterodera glycines*)
- ☐ Race 1 ☐ Race 2 ☒ Race 3 ☐ Race 4 ☒ Other (Specify) Race 14
- ☐ Lance Nematode (*Hoplolaimus Colombus*)
- ☒ Southern Root Knot Nematode (*Meloidogyne incognita*)
- ☐ Northern Root Knot Nematode (*Meloidogyne Hapla*)
- ☒ Peanut Root Knot Nematode (*Meloidogyne arenaria*)
- ☐ Reniform Nematode (*Rotylenchulus reniformis*)
- ☐ OTHER DISEASE NOT ON FORM (Specify): \_\_\_\_\_

20. PHYSIOLOGICAL RESPONSES: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☒ Iron Chlorosis on Calcareous Soil
- ☐ Other (Specify) \_\_\_\_\_

21. INSECT REACTION: (Enter 0 = Not Tested; 1 = Susceptible; 2 = Resistant)

- ☐ Mexican Bean Beetle (*Epilachna varivestis*)
- ☒ Potato Leaf Hopper (*Empoasca fabae*)
- ☐ Other (Specify) \_\_\_\_\_

22. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED.

CHARACTER	NAME OF VARIETY	CHARACTER	NAME OF VARIETY
Plant Shape	CM 428	Seed Coat Luster	CM 428
Leaf Shape	CM 428	Seed Size	CM 428
Leaf Color	CM 428	Seed Shape	CM 428
Leaf Size	CM 428	Seedling Pigmentation	A 4922

23. GIVE DATA FOR SUBMITTED AND SIMILAR STANDARD VARIETY: Paired Comparison Data

VARIETY	NO. OF DAYS MATURITY	PLANT LODGING SCORE	CM PLANT HEIGHT	LEAFLET SIZE		SEED CONTENT		SEED SIZE G/100 SEEDS	NO. SEEDS/POD
				CM Width	CM Length	% Protein	% Oil		
DP 4748 Submitted	130	2.1	87			34.8	20.3	15.8	
CM 428 Name of Similar Variety	129	1.9	77			34.9	20.8	14.6	

PUBLICATIONS USEFUL AS REFERENCE AIDS FOR COMPLETING THIS FORM:

1. Caldwell, B.E., ed. 1973. Soybeans: Improvement, Production, and Uses. Amer. Soc. Agron. Monograph No. 16.
2. Buttery, B.R. and R.I. Buzzell. 1968. Peroxidase activity in seeds of soybean varieties. Crop Sci., 8: 722-725.
3. Hymowitz, T. 1973. Electrophoretic analysis of SBTI-A<sub>2</sub> in the USDA soybean germplasm collection. Crop Sci., 13: 420-421.
4. Payne, R.C. and L.F. Morris. 1976. Differentiation of soybean cultivars by seedling pigmentation patterns. J. Seed Technol. 1: 1-19.

RECEIVED  
USDA-ARS-PVPO

99 MAY -5 1977

EXHIBIT D

~~DETAILED SEED~~ APPLICATION FOR DP 4748 S

DGPL Technology Holding Company (Est: 2/10/2004)  
LLC's

ADDITIONAL DESCRIPTION

DP 4748<sup>S</sup> is an F<sub>5</sub> selection composited in the F<sub>5</sub> generation from the cross 5024 x DP 3478. 5024<sup>(Est: 10/16/2002)</sup> is a group IV sulfonylurea tolerant selection from the cross A 5979\* [A 6785 x (W 20 x DP 415)]. It is a mid group IV maturity and is being released because of its excellent yield potential compared to other varieties of similar maturity. DP 4748<sup>S</sup> plants are medium tall with white flowers, tawny pubescence and brown pods at maturity. (Est: 10/16/2002)  
Seeds are dull yellow with black hila averaging 2800 seed per pound. It is resistant to stem canker and field tolerant to phytophthora root rot. It is susceptible to cyst and root knot nematodes. (Susceptible (Est: 12/19/2003))



# **Deltapine Seed**

Soybean Product Nomination Form

**DP 4748 S**

C. TINIUS  
Soybean Project Leader  
December, 1999

# DP 4748 S

## PRODUCT SUMMARY SHEET

### KEY FEATURES

Excellent yield potential  
STS<sup>®</sup> gene for tolerance to sulfonylurea herbicides  
Excellent resistance to stem canker  
Tall, indeterminate growth habit

### PRODUCT DESCRIPTION

Trait	Phenotype
Relative maturity	4.7
Roundup Ready <sup>™</sup>	No
STS <sup>®</sup>	Yes
Flower color	White
Pubescence color	Tawny
Hilum color	Black
Podwall color	Brown
Seed size	2800/lb
Seed protein	Untested
Seed oil	Untested
Peroxidase reaction	Untested (Tested and found to be high, as denoted on Exhibit C of this application) (8/12/19/2003 per applicant's request)
Seedcoat luster	Dull
Hypocotyl color	Bronze
Seed shape	Spherical flattened
Leaflet size	Medium
Leaflet color	Medium green
Canopy	Closed
Growth habit	Indeterminate
SCN race 3	Susceptible
SCN race 14	Susceptible
Common root knot	Susceptible
Peanut root knot	Susceptible
Javanese root knot	Untested
Lance nematode	Untested
Frogeye leafspot	Moderately susceptible
Sudden death	Untested
Stem canker	Resistant
Phytophthora root rot	Untested (Described as susceptible to PRR to match description noted on Exhibit C of this application) (8/12/19/2003 per applicant's request)
Red crown rot	Untested
Chloride tolerance	Untested
Aerial Blight	Susceptible

### BREEDER'S SUBJECTIVE RATINGS

Field emergence	Excellent
Early vigor	Good
Narrow rows	Good
Wide rows	Excellent
No-till	Excellent
Late planting	Excellent
Poorly-drained soils	Excellent
Shatter resistance	Excellent

### PRODUCT IDENTITY

Line selected by: Dr. Grover Shannon  
Former designation: 96-01957  
Pedigree: DP 3571 S sib\*DP 3478  
Areas of adaptation: Midsouth and Southeast  
Replace: DP 3478  
Complement: DP 4750 RR  
Main competition: A4922  
Most similar line: DP 4750 RR

### YIELD HISTORY

Outyielded DP 3478 by 10% in 12 Midsouth trials  
Outyielded DP 3478 by 9% in 4 Southeast trials  
Yield rank was 1/48 over 8 locations in 1999  
Yield rank was 1/24 over 8 locations in 1998  
Yield rank was 5/48 over 1 location in 1997

### KNOWN WEAKNESSES

Susceptible to cyst and root knot nematodes  
Green stems at maturity in some environments

### SEED STOCK STATUS

3,852 units of breeder seed at GFS

### ADDITIONAL DESCRIPTION

Offtypes of each of the following traits may be exhibited in up to 1% of the plants of this variety: flower color, pubescence color and hila color.

# **DP 4748 S** **PRODUCT PERFORMANCE**

## **Combined data, all locations 1998-1999**

	YIELD		MAT	HGT	LDG
	bu/ac	%3478			
(BT: 2/10/2004) <b>DP 4748 S</b>	<b>51.6</b>	<b>110</b>	<b>1.3</b>	<b>37.2</b>	<b>2.6</b>
DP 3478	46.9	100	0	34.2	2.3
A4922	44.3	94	-1.4	33.3	1.6
Locations	16		7	18	17

## **Data by region**

### **Midsouth, all locations, 1998-1999**

	YIELD		MAT	HGT	LDG
	bu/ac	%3478			
(BT: 2/10/2004) <b>DP 4748 S</b>	<b>49.3</b>	<b>110</b>	<b>1.9</b>	<b>37.2</b>	<b>2.4</b>
<DP 3478>	44.7	100	0	34.4	2.3
A4922	42.4	95	-1.3	33.1	1.6
Locations	12		4	14	14

### **Southeast, all locations, 1998-1999**

	YIELD		MAT	HGT	LDG
	bu/ac	%3478			
(BT: 2/10/2004) <b>DP 4748 S</b>	<b>58.5</b>	<b>109</b>	<b>0.5</b>	<b>37.0</b>	<b>3.3</b>
DP 3478	53.7	100	0	33.4	2.3
A4922	50.1	93	-1.5	34.2	1.7
Locations	4		3	4	3

In 13/16 research trials, DP 4748 S has exceeded the mean yield of the trial by 10% or greater.

In 13/16 research trials, DP 4748 S has been among the top 1/3 of entries for yield.

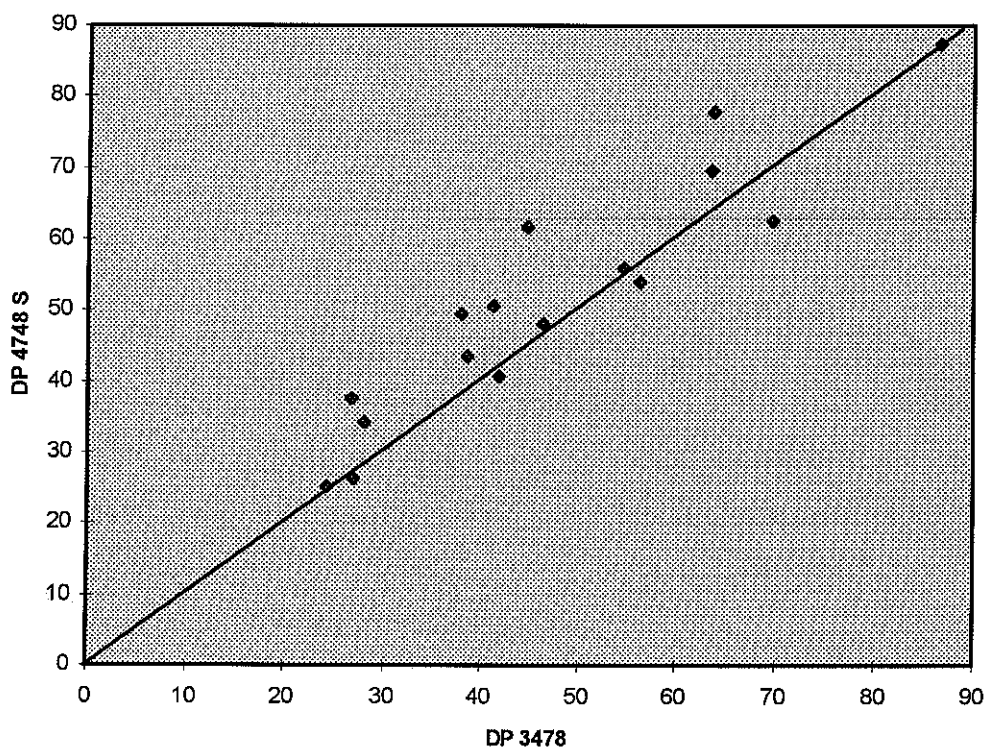
In 8/16 research trials, DP 4748 S has been the highest-yielding entry in the trial.

In both 1998 and 1999, DP 4748 S was the highest-yielding entry in the trial over all locations.

## DP 4748 S

### PRODUCT PERFORMANCE

DP 4748 S vs DP 3478



This scattergram depicts the head-to-head performance of DP 4748 S against DP 3478 in 16 research trials conducted during 1998 and 1999. The axes are graduated in bushels/acre, and a point indicates the yields of the two varieties at a given environment. DP 4748 S has out-yielded DP 3478 12/16 times.

# **DP 4748 S** **DISEASE REACTION DOCUMENTATION**

## Soybean Cyst Nematode (*Heterodera glycines*)

Data from Dr. Lawrence Young, USDA, Jackson, Tennessee

(ST:2/10/2004)

Line	Race 3 Score	Race 14 Score
DP 4748 S'	4.3	4.0
Res. Check	1.0	2.2
Sus. Check	4.8	4.7

Scale: 1= 0 to 5 females/plant, 2= 6 to 10, 3= 11 to 20, 4 = 21-40, 5 = more than 40 females/plant

## Root Knot Nematode (*Meloidogyne incognita* and *M. arenaria*)

Data from Dr. Robert Kinloch, Univ. of Florida, Jay, Florida

(ST:2/10/2004)

Line	M.i. Score	M.a. Score
DP 4748 S'	4.0	1.5
Res. Check	2.0	1.0
Sus. Check	3.5	3.5

Scale: 1= no galling, 5= very severe galling

## Stem Canker (*Diaporthe phaseolorum* (Cooke & Ellis) Sacc. f. sp. *meridionalis* (Morgan-Jones)

Data from Dr. Grover Shannon, Deltapine Seed, Scott, Mississippi

(ST:2/10/2004)

Line	1998 Score	1999 Score
DP 4748 S'	1.0	1.0
DP 3478	1.0	1.0
A4922	5.0	4.0

Scale: 1= no symptoms, 5= very severe symptoms

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) <del>Delta and Pine Land Company</del> <del>d/b/a Deltapine Seed</del> <b>PL Technology Holding Corp. (BT: 2/16/2004)</b>	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER DPX 4748	3. VARIETY NAME DP 4748 <b>S</b> <i>RAO 11/22/00</i>
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 100 Main Street Scott, MS 38772	5. TELEPHONE (include area code) (601) 742-3351 (662) 4141 <i>(BT: 2/16/2004)</i>	6. FAX (include area code) (601) 742-3182 (662) 742-3182 <i>(BT: 2/16/2004)</i>
7. PVPO NUMBER <b>9900287</b>		

8. Does the applicant own all rights to the variety? Mark an "X" in appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or U.S. based company?  
If no, give name of country ☒ YES ☐ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. national(s)?

☐ YES ☐ NO If no, give name of country

b. If original rights to variety were owned by a company(ies), is(are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (if needed, use reverse for extra space):

**PLEASE NOTE:**

Plant variety protection can be afforded only to owners (not licensees) who meet one of the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definition.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 10 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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STD-470-E (07-97) (Destroy previous editions).

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